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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,413	11/24/2003	Curtis Edward Scott	LD 11168-2 GECZ 2 00384-1	5099
7590	04/05/2005		EXAMINER ZIMMERMAN, GLENN	
Timothy E. Nauman FAY, SHARPE, FAGAN, MINNICH & McKEE, LLP 1100 Superior Avenue Cleveland, OH 44114			ART UNIT 2879	PAPER NUMBER

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,413

Applicant(s)

SCOTT ET AL.

Examiner

Glenn Zimmerman

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-14, 16 and 19 is/are rejected.
- 7) ☒ Claim(s) 15, 17, 18, 20 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1103.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of Group II claims 10-21 in the reply filed on February 7, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Priority

This application filed under former 37 CFR 1.60 lacks the necessary reference to the prior application. A statement reading "This is a continuation of Application No. 09/707,408, filed November 6, 2000." should be entered following the title of the

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invention or as the first sentence of the specification. Also, the current status of all nonprovisional parent applications referenced should be included.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 10-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Venkataramani et al. U.S. Patent 6,583,563.

Regarding claim 10, Venkataramani et al. disclose a method of making a ceramic discharge chamber comprising the steps of forming a mixture (**col. 8 lines 28-36; col. 7 lines 25-26**) comprised of a ceramic powder and a binder and injecting (**col. 7 lines 51-55**) the mixture into a die and around a mold to form at least a main body (**body member ref. 100; col. 8 line 7**) of the discharge chamber .

Regarding claim 11, Venkataramani et al. disclose the method of claim 10 wherein the ceramic power is alumina (**col. 8 lines 28-36**).

Regarding claim 12, Venkataramani et al. disclose the method of claim 10 wherein the binder is a wax (**col. 8 lines 28-36; col. 7 lines 35-36**).

Regarding claim 13, Venkataramani et al. disclose the method of claim 10 further comprising injecting the mixture into the die to form a monolithic article having the main body defining the arc chamber and at least one end member wherein the mold is removable from the monolithic article after solidification of the mixture (**body member ref. 100; col. 8 lines 37-41**). The examiner notes that the mold has been removed.

Claims 10, 13, 14 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Haruo et al. Japanese Patent Application Publication 07047518.

Regarding claim 10, Haruo et al. disclose a method of making a ceramic discharge chamber comprising the steps of forming a mixture (**paragraph 24 ref. 12**) comprised of a ceramic powder (**alumina**) and a binder (**thermoplastic**) and injecting (**paragraph 24; drawing 1-1 and 2**) the mixture into a die and around a mold (**resin part ref. 10**) to form at least a main body (**ref. 13 drawing 2-3**) of the discharge chamber.

Regarding claim 13, Haruo et al. disclose the method of claim 10 further comprising injecting the mixture into the die to form a monolithic article having the main body defining the arc chamber and at least one end member wherein the mold is removable from the monolithic article after solidification of the mixture (**paragraph 26 and 27**).

Regarding claim 14, Haruo et al. disclose the method of claim 13, wherein the mold comprises a plug which is removable from the monolithic article after solidification of the mixture by melting or decomposition of the plug **(paragraph 27)**.

Regarding claim 19, Haruo et al. disclose the method of claim 13 wherein the monolithic article includes a main body and two end members **(Fig. 2 (3) end parts at ref. 2 and 3 plus part making up the cavity ref. 5)**.

Claims 10, 13, 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi Japanese Patent Application Publication 48(1973)-61514A.

Regarding claim 10, by Kobayashi discloses a method of making a ceramic discharge chamber comprising the steps of forming a mixture **(page two of translation first full paragraph)** comprised of a ceramic powder **(alumina powder)** and a binder **(polyvinyl alcohol binder)** and injecting **(page two of translation first full paragraph of the English translation)** the mixture into a die and around a mold **(drawing 7 ref. 7)** to form at least a main body **(Fig. 7 ref. 10(4))** of the discharge chamber .

Regarding claim 13, Kobayashi discloses the method of claim 10 further comprising injecting the mixture into the die to form a monolithic article having the main body defining the arc chamber and at least one end member wherein the mold is removable from the monolithic article after solidification of the mixture **(page 2 first full paragraph of the English translation wax 7 was melted and discharged)**.

Regarding claim 14, Kobayashi discloses the method of claim 13, wherein the mold comprises a plug which is removable from the monolithic article after solidification

of the mixture by melting or decomposition of the plug (**page 2 first full paragraph of the English translation wax 7 was melted and discharged**).

Regarding claim 16, Kobayashi disclose the method of claim 14, wherein the plug is a wax or polymeric material melting at a temperature greater than the melting temperature of the binder. The examiner notes from page 2 first full paragraph of the English translation that 150 celsius is required to melt the wax 7. The examiner notes that the binder is polyvinyl alcohol which melts at 83 C. Therefore the wax 7 has a higher melting point than the polyvinyl alcohol binder.

Allowable Subject Matter

Claims 15, 17, 18, 20 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 15, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a method including the combination of all the limitations as set forth in claim 15, and specifically wherein removable pins support the plug during injection of the mixture into the die and create lead through or electrode openings in the at least one end member could not be found elsewhere in prior art.

Regarding claim 17, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a method including the

combination of all the limitations as set forth in claim 17, and specifically wherein the ceramic discharge chamber is slidably removed from the die along a longitudinal axis of the main body could not be found elsewhere in prior art.

Regarding claim 18, claim 18 is allowed for the reasons given in claim 17, because of its dependency status on claim 17.

Regarding claim 20, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a method of making a ceramic discharge chamber including the combination of all the limitations as set forth in claim 20, and specifically wherein the die is of a runnerless design having a nozzle substantially directly injection the mixture into the cavity could not be found elsewhere in prior art.

Regarding claim 21, claim 21 is allowed for the reasons given in claim 20, because of their dependency status on claim 20.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kim et al. U.S. Patent 6,204,902 disclose Flexible Plate Liquid Crystal Display Device. Kim et al. discloses that polyvinyl alcohol has a melting point of 90 degrees C (**col. 1 lines 41-42**).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (571) 272-2466. The examiner can normally be reached on M-W 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Glenn Zimmerman


Joseph Williams
Primary Examiner
AU 2879